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Gastric Tube Placement Verification Using RightSpot Gastric pH Testing

BACKGROUND

- Gastric tube placement is a common bedside procedure performed by RNs in the Emergency Department (ED).
- Radiographic verification is the preferred method for verifying placement. However, alternative methods are used due to concerns for cost, radiation exposure, and delays in care.
- Emergency Nurses Association (ENA) Clinical Practice Guidelines recommend pH testing as an evidence-based alternative.
- RightSpot gastric pH testing device is an in vitro diagnostic product utilized for gastric tube placement verification.

PURPOSE

- St. Joseph Hospital Emergency Care Center (ECC) identified an opportunity to update current bedside verification methods using evidence-based practice.
- The primary goal of this project was to introduce RightSpot pH testing as a primary method for verification of gastric tube placement. Sub aims include ensuring staff competency and monitoring patients outcomes.

REFERENCES

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METHODS

- Design: Evidence-based quality improvement project
- Setting: SJO Emergency Care Center
- Participants: ECC RNs

Procedure:

- Collaborate between ECC Leadership, Clinical Laboratory and RN project leaders for education and training development.
- Superusers conducted in-person training for all ECC RN staff. Additional learning provided via email reminders and HealthStream module.
- Monthly chart audits to determine compliance, guide further education and report findings to stakeholders.
- Aggregate de-identified data collected to identify the following:
  - Percentage compliance of RightSpot verification method.
  - Percentage of gastric tubes placed with RightSpot pH within normal range vs. outside normal range.
  - Secondary verification methods when RightSpot pH outside of normal pH range.

RESULTS

- **May 2019 – June 2020:**
  - 61.4% overall usage
  - 52.5% usage May 2019 – Dec 2019
  - 73.3% usage January 2020 – June 2020
- **Of the 43 audits indicating RightSpot usage:**
  - 40 identified pH <4.5, indicative of proper gastric tube placement.
  - 2 identified as 'UNKNOWN' due to no gastric content and XR indicated large hiatal hernia that impeded placement.
  - 1 identified pH >7.0. XR ordered and gastric tube correctly placed.

IMPLICATIONS FOR PRACTICE

- Data limited due to 5 monthly chart reviews.
- Further research to audit all gastric tube placements due to low volume procedure.
- Incorporate as a part of annual education to increase compliance of product.

CONCLUSIONS

- An accurate placement verification is essential because misplaced gastric tubes can result in patient harm or death.
- Data indicates increased compliance with change in practice over time.
- ENA Clinical Practice Guidelines offer a critical analysis of literature on gastric tube verification methods that helps bring evidence-based practice to the bedside.